

PHOTOFAC[®] Folder

with CIRCUITRACE[®]

MORSE/ELECTROPHONIC
CHASSIS 26W, 76W

For Supplier Address See PHOTOFAC Index

SET 1318 FOLDER 4

MORSE/ELECTROPHONIC
CHASSIS 26W, 76W

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

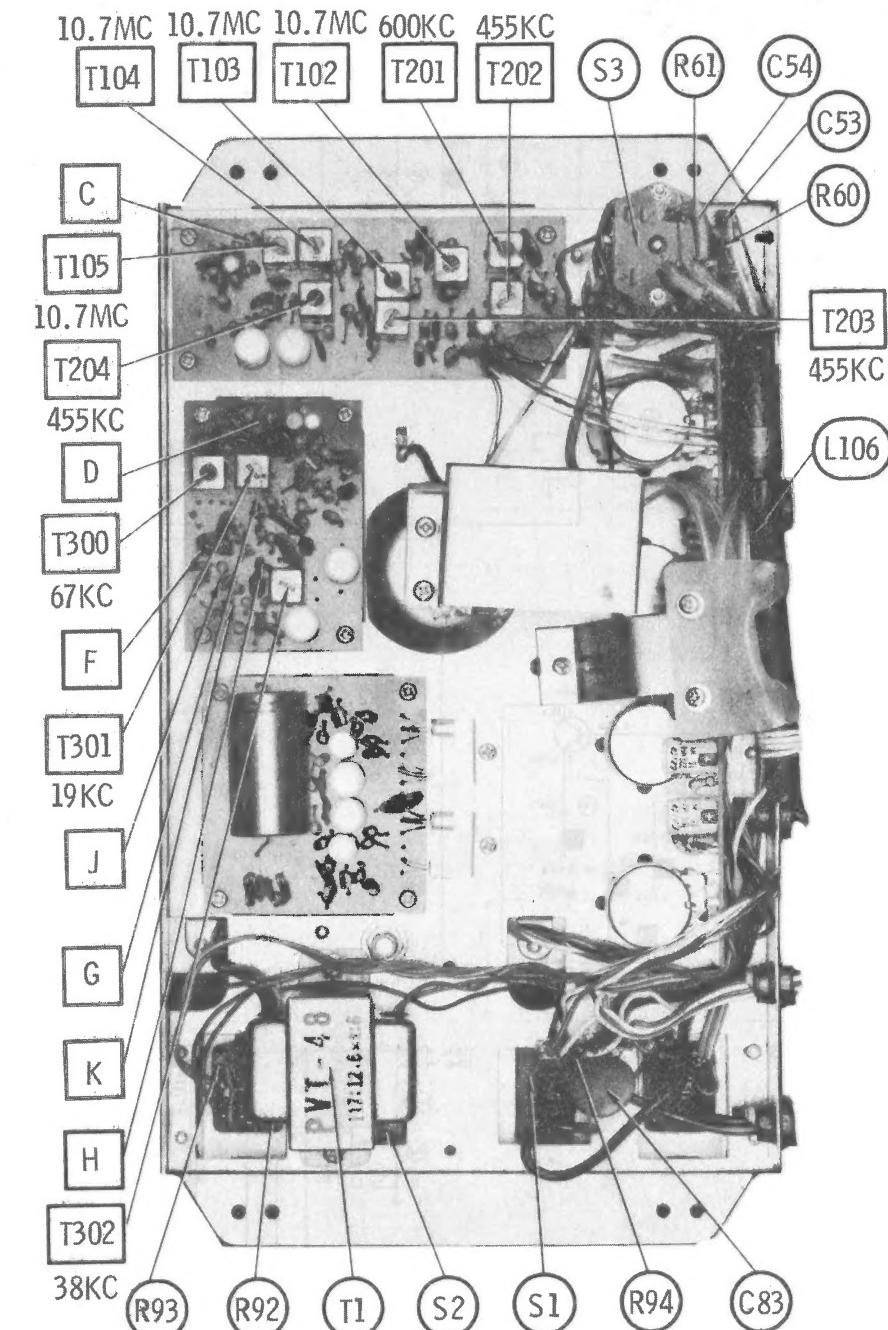
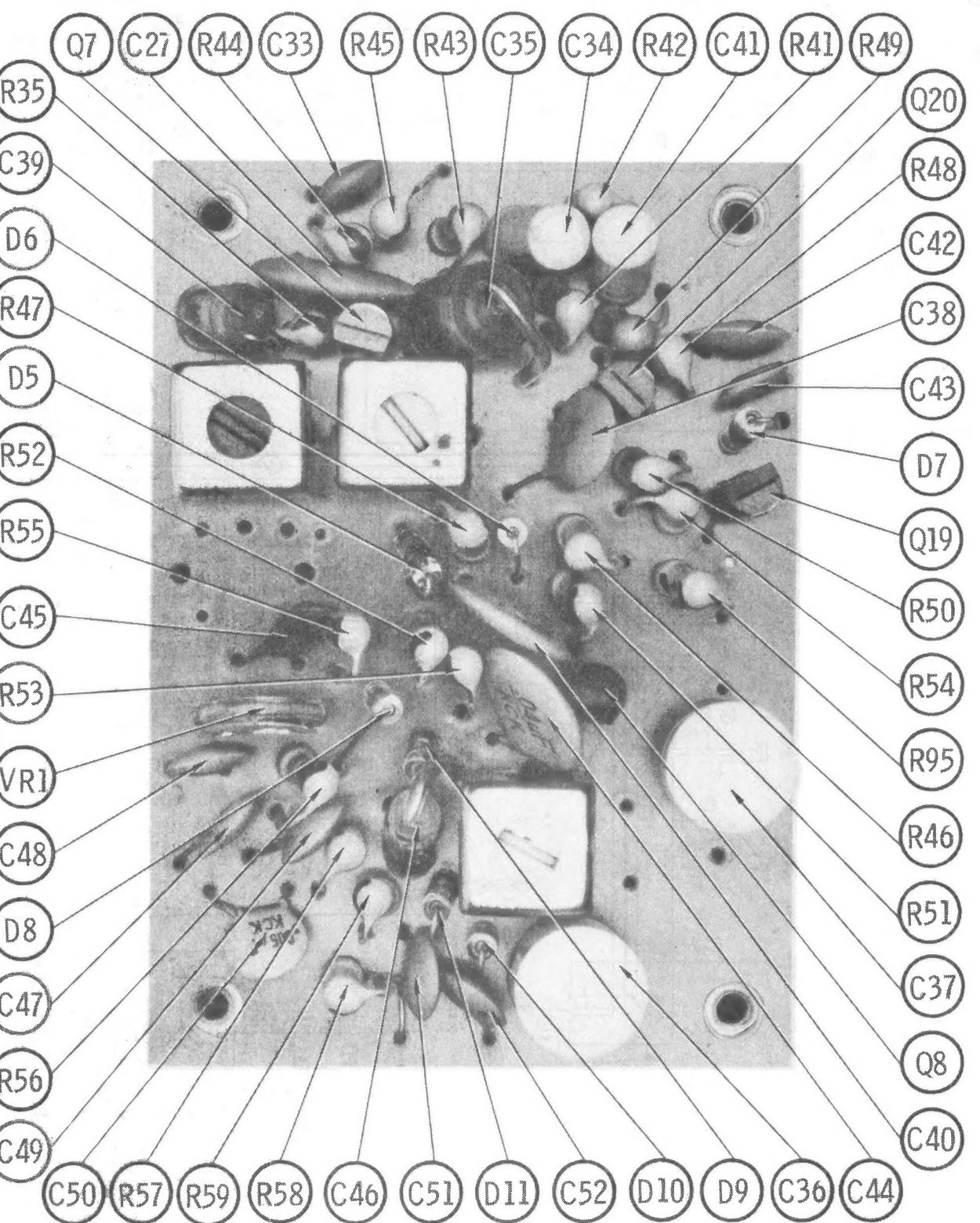
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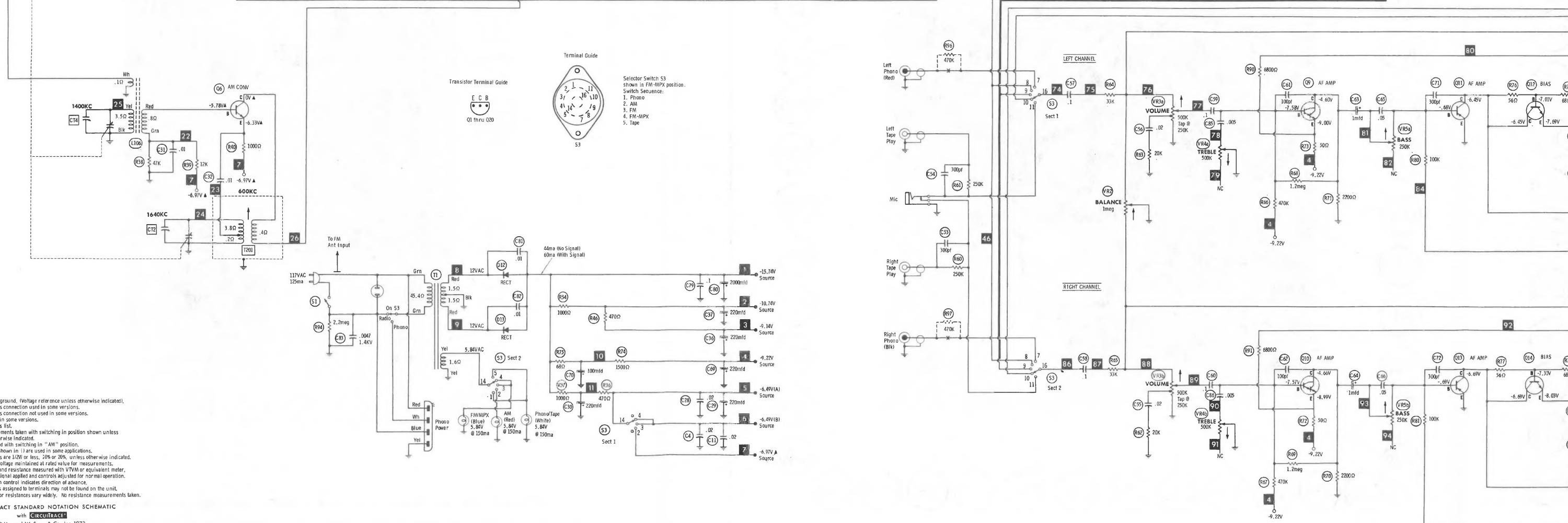
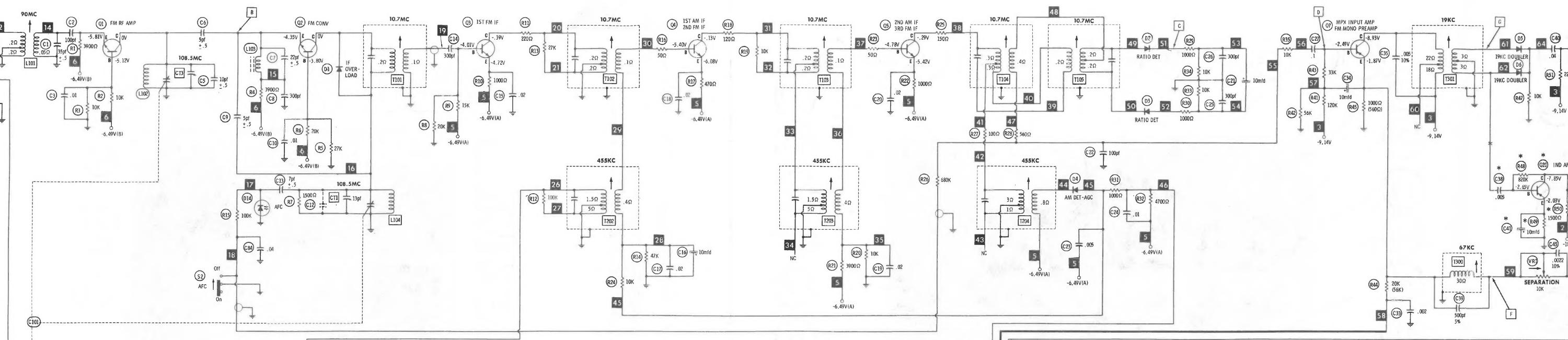
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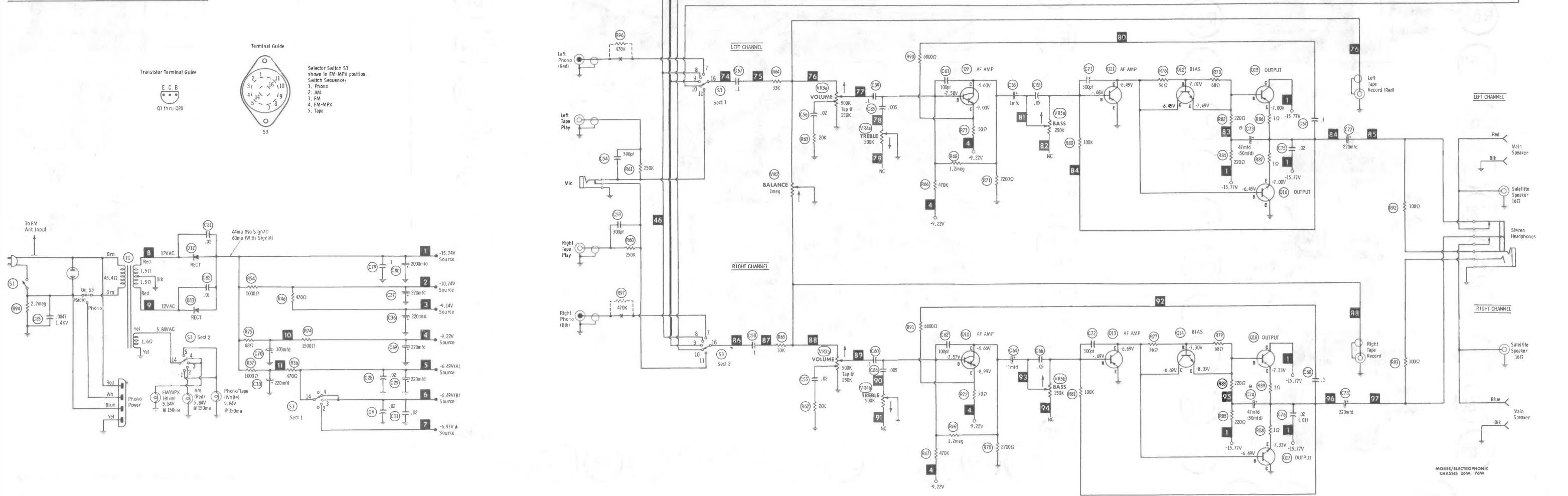
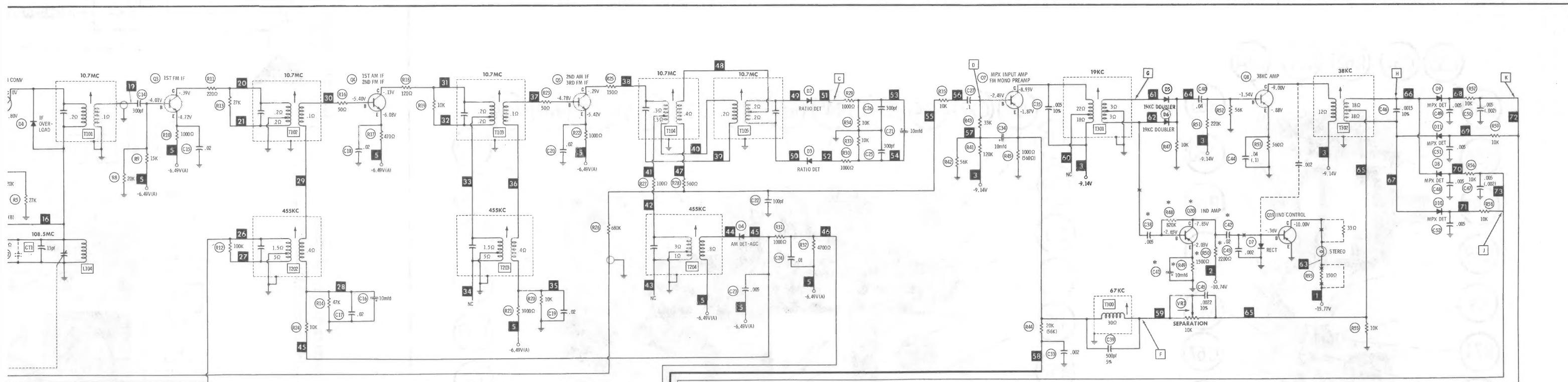
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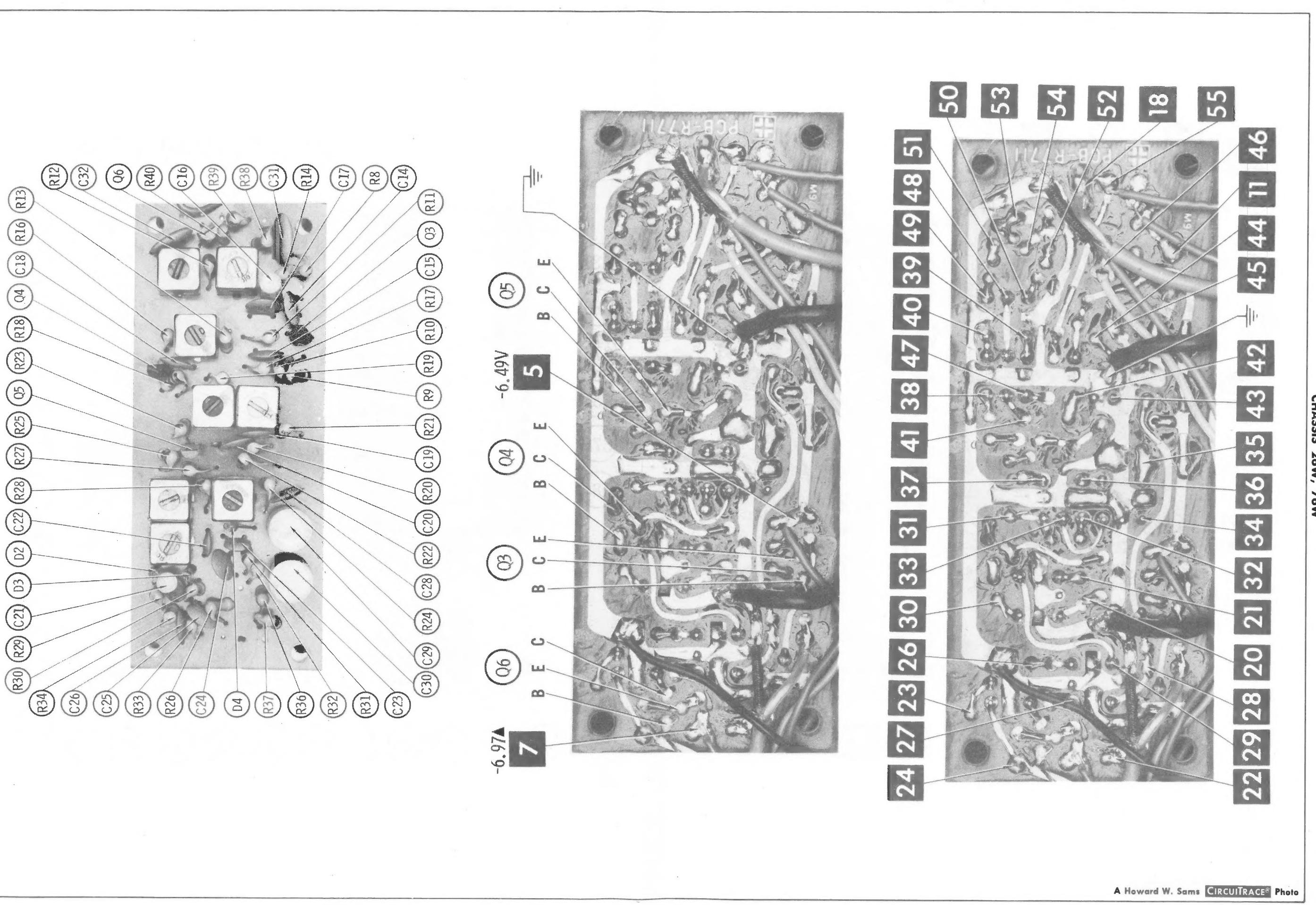
SET 1318 FOLDER 4

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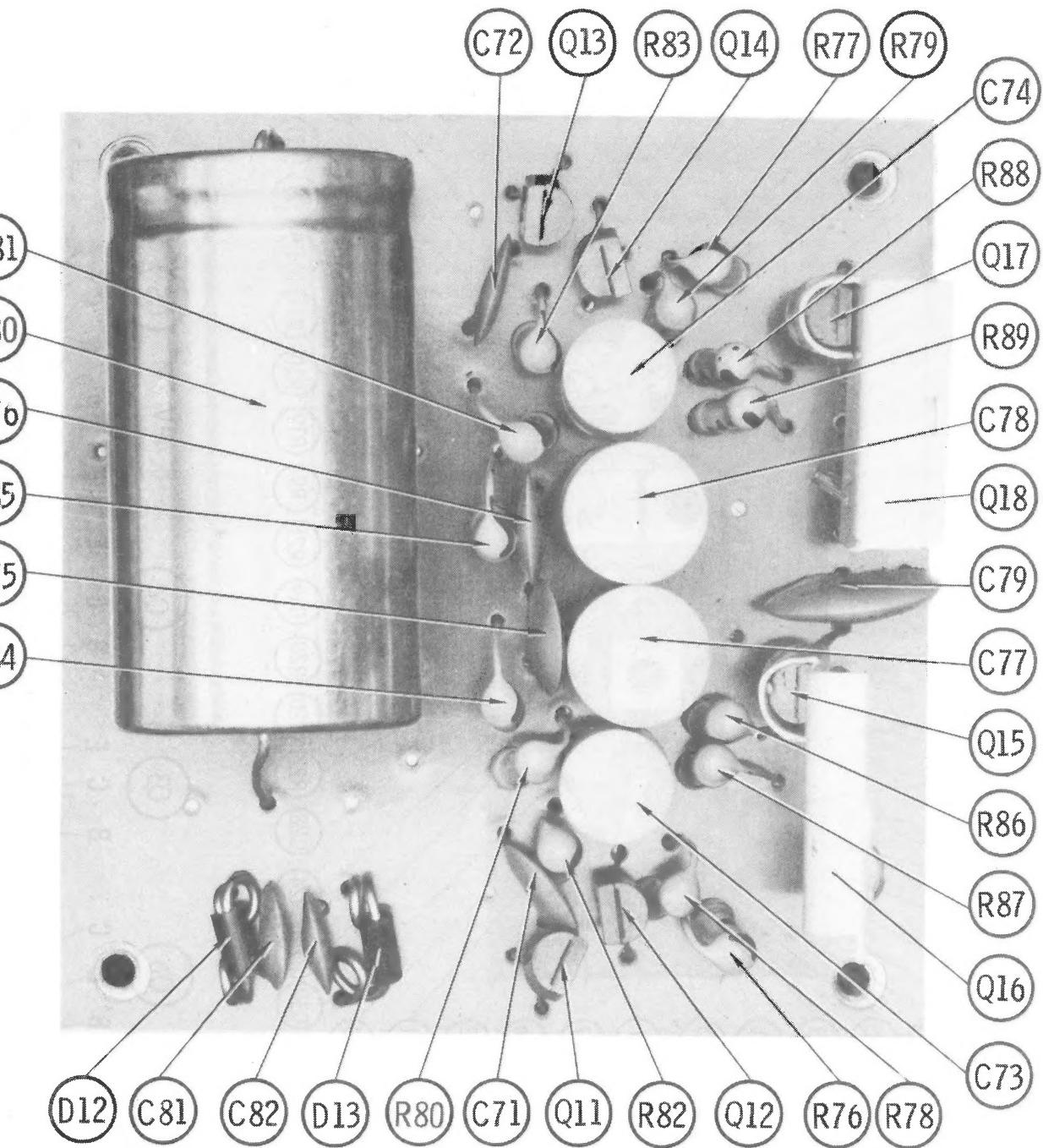
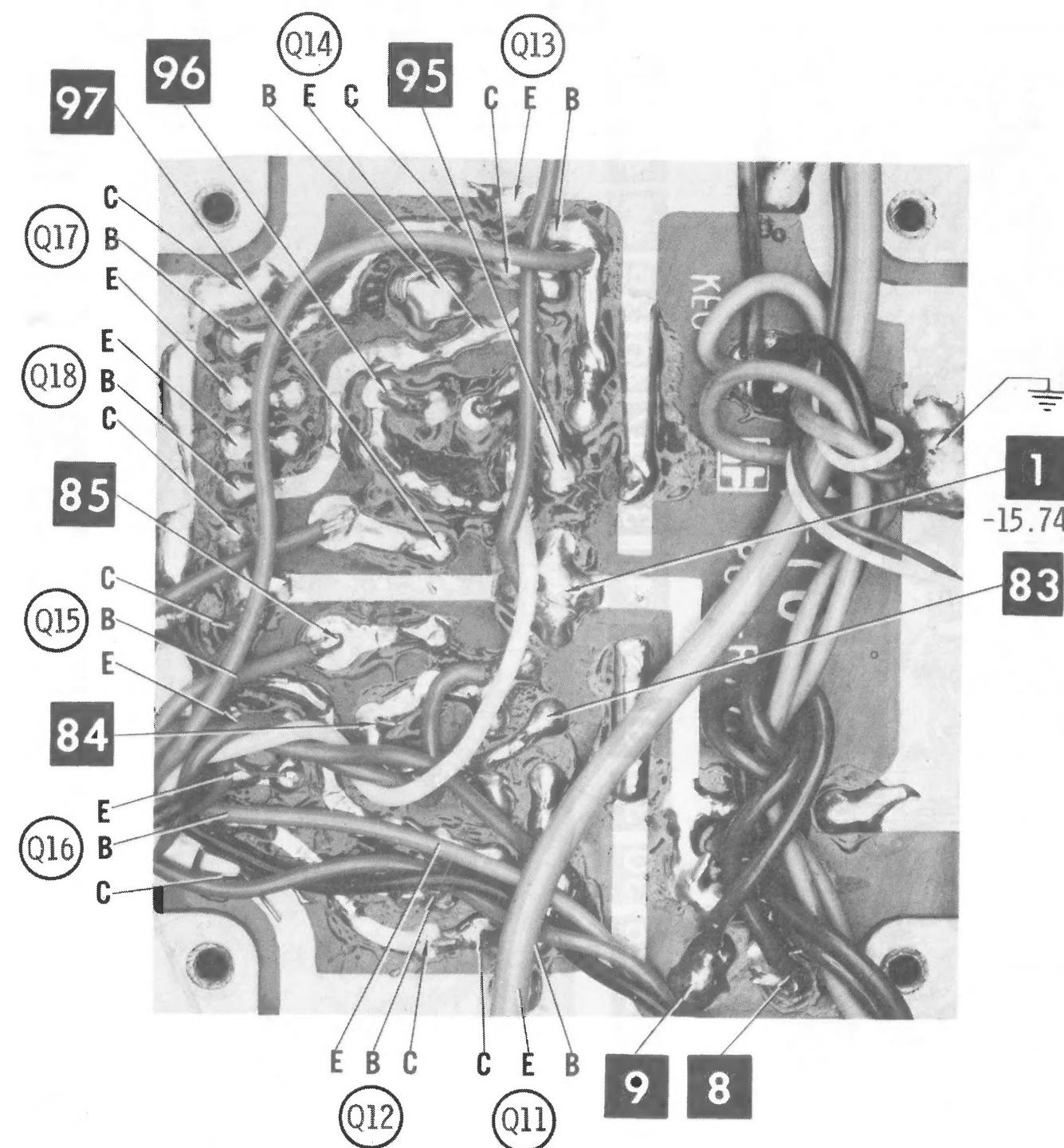






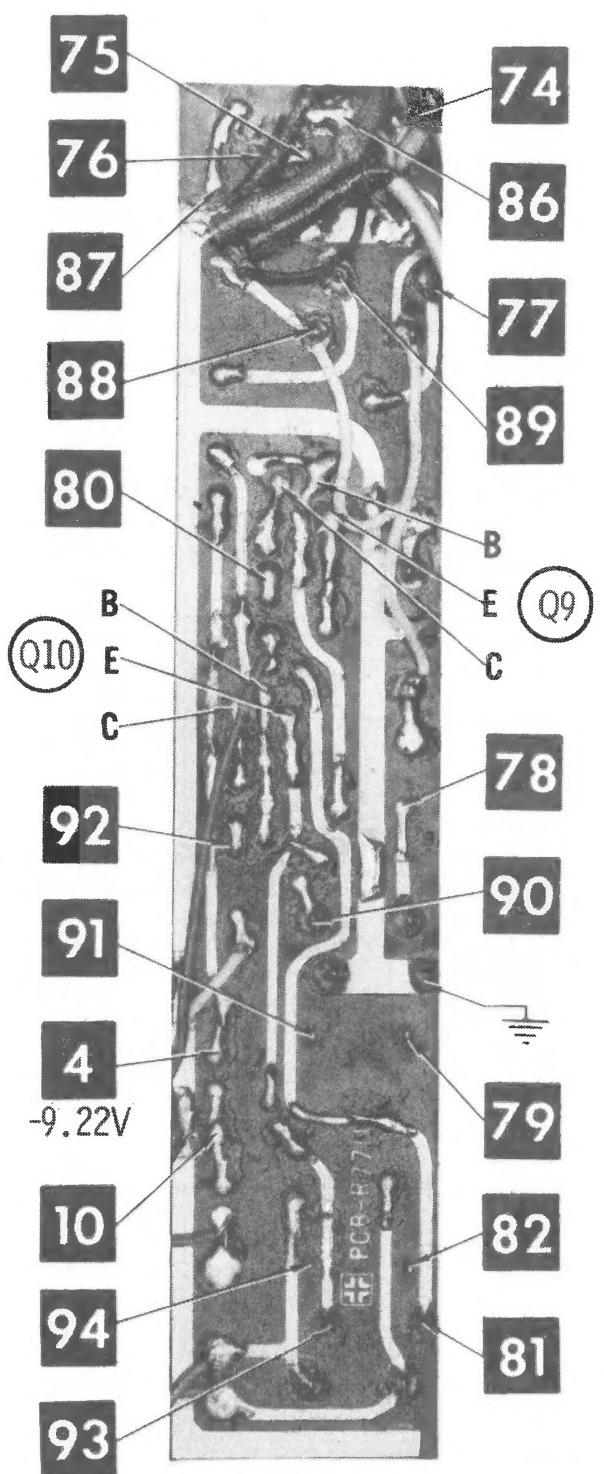
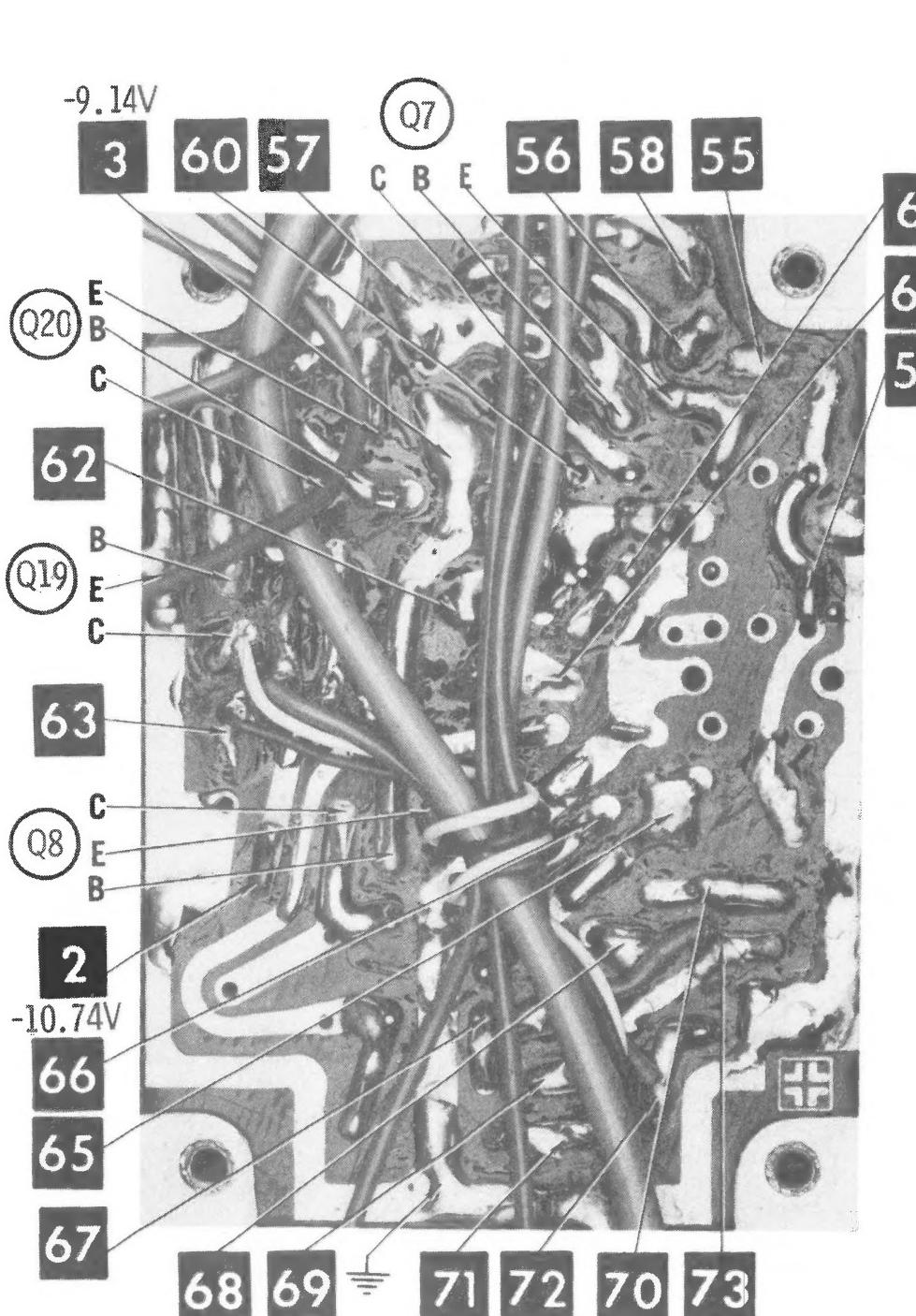
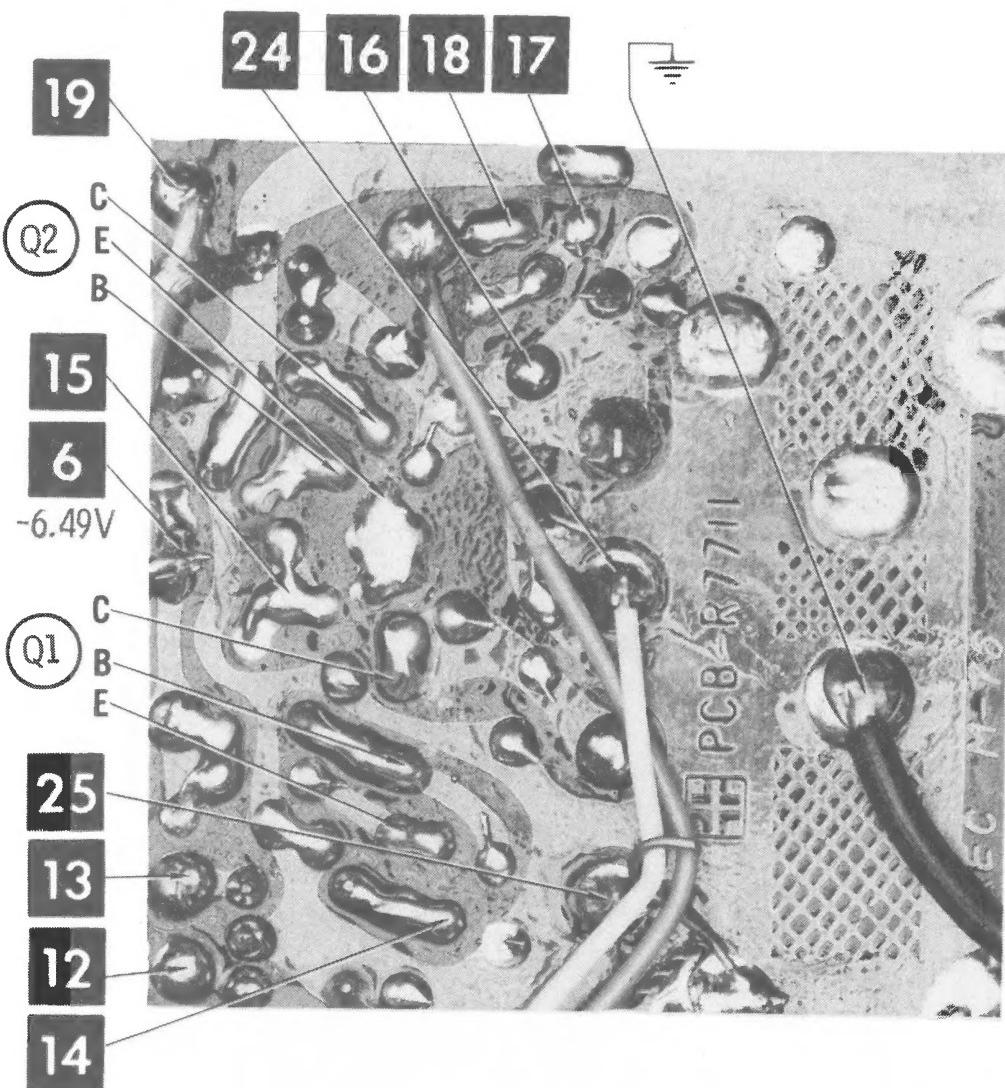
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SET 1318 FOLDER 4



MORSE/ELECTROPHONIC
CHASSIS 26W, 76W

FOLDER 4



ALIGNMENT INSTRUCTIONS

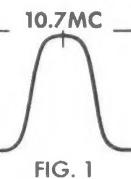
CAUTION: Use isolation transformer or observe polarity when connecting test equipment. Maintain line voltage at 117VAC. Allow a 15-minute warm-up period. Use only enough generator output to obtain a suitable indication.				
Suggested Alignment Tools: L101 GC ELECTRONICS #9440 T101 thru T201 thru T204, CT2 thru CT4 GC ELECTRONICS #8868, 8987, 9089 CT1 GC ELECTRONICS #8606, 8606L, 8869				

AM ALIGNMENT—SELECTOR IN AM POSITION

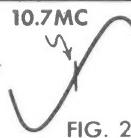
Connect generator across loop fashioned of several turns of wire. Set volume at maximum.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	T204, T203, T202	Adjust for maximum. Repeat until no further improvement can be made.
2. 1640KC	"	"	CT2	Adjust for maximum.
3. 1400KC	Tune to signal	"	CT4	"
4. 600KC	"	"	T201	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point B, low side to ground.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5. 10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point C, common to ground.	T104, T103, T102, T101	Adjust for maximum.
6. "	"	DC probe of VTVM to point D, common to ground.	T105	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

**FM IF ALIGNMENT USING FM SIGNAL GENERATOR—SELECTOR IN FM POSITION**

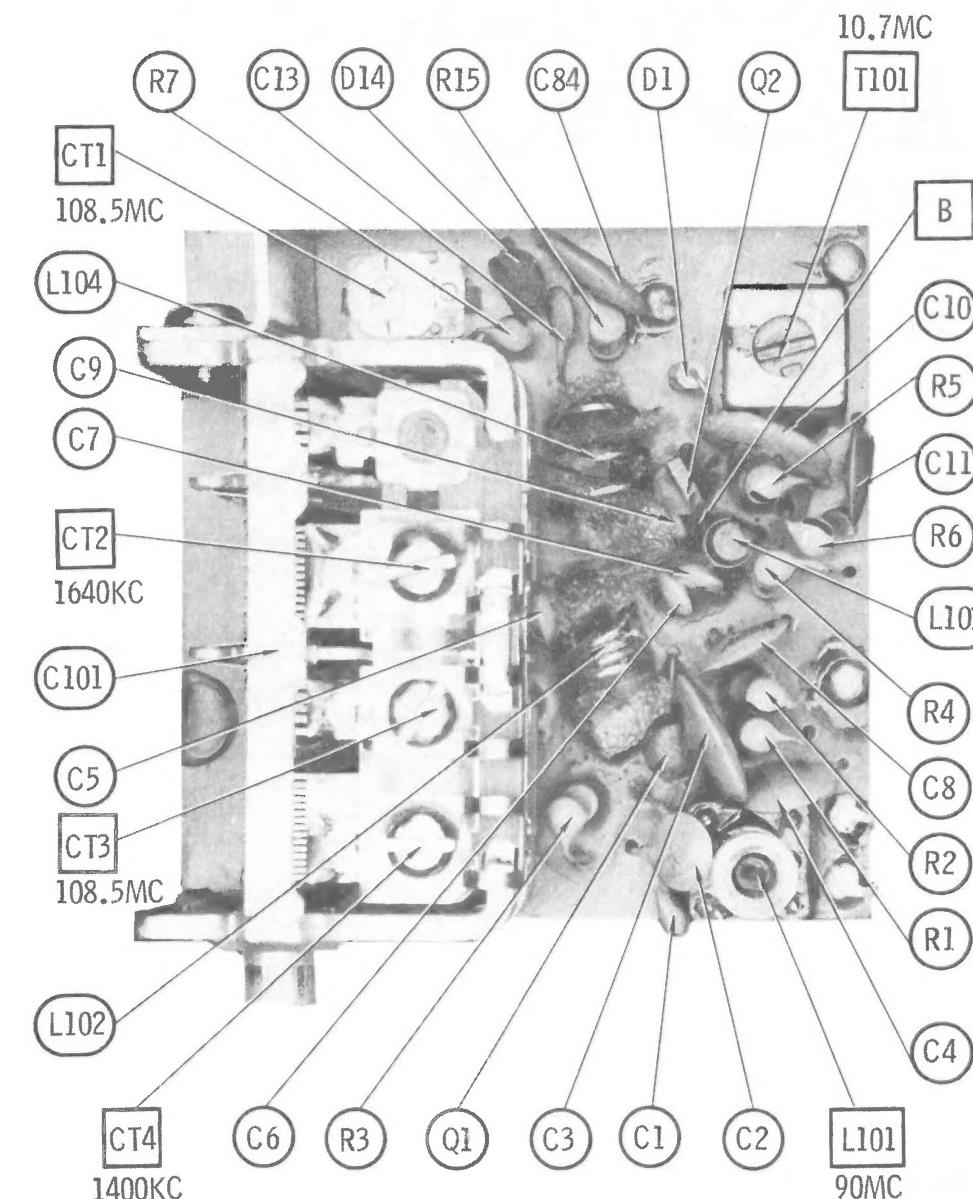
High side of generator thru .001mfd to point B, low side to ground. Use only enough marker signal for indication. Use 60 cycle frequency modulated signal with 450KC sweep. Use 60 cycle sawtooth voltage in scope for horizontal deflection.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5. 10.7MC 450KC Sweep	Point of non-interference	Vert amp of scope to point C, low side to ground.	T104, T103, T102, T101	Disconnect stabilizing capacitor C21. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C21.
6. "	"	Vert amp of scope to point D, low side to ground.	T105	Adjust T105 to place marker at center of "S" curve similar to Fig. 2. Readjust T104 for maximum amplitude and straightness of line.

**FM RF ALIGNMENT—SELECTOR IN FM POSITION**

Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
7. 108.5MC	High freq. end	DC probe of VTVM to point C, common to ground.	CT1, CT3	Adjust for maximum.
8. 90MC Unmodulated	Tune to signal.	"	L101	Rock tuning and adjust for maximum. Repeat steps 7 and 8 until no further improvement can be made.

ALIGNMENT INSTRUCTIONS (Continued)**FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR ($\pm .0001\%$ ACCURACY)**

High side of generator thru 47K to point D, low side to ground.			
GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
9. 67KC	Vert amp of scope thru 47K to point F, low side to ground.	T300	Adjust for MINIMUM
10. 19KC	Vert amp of scope thru 47K to point G, low side to ground.	T301	Adjust for maximum.
11. "	Vert amp of scope thru 47K to point H, low side to ground.	T302	Adjust for maximum 38KC response.
12. Modulated Left Channel	Vert. amp of scope to point J, low side to ground.	VR1	Adjust for MINIMUM. This step should require only slight adjustment.
13. Modulated Right Channel	Vert. amp of scope to point K, low side to ground		Check for MINIMUM. If necessary make compromise adjustment of VR1.



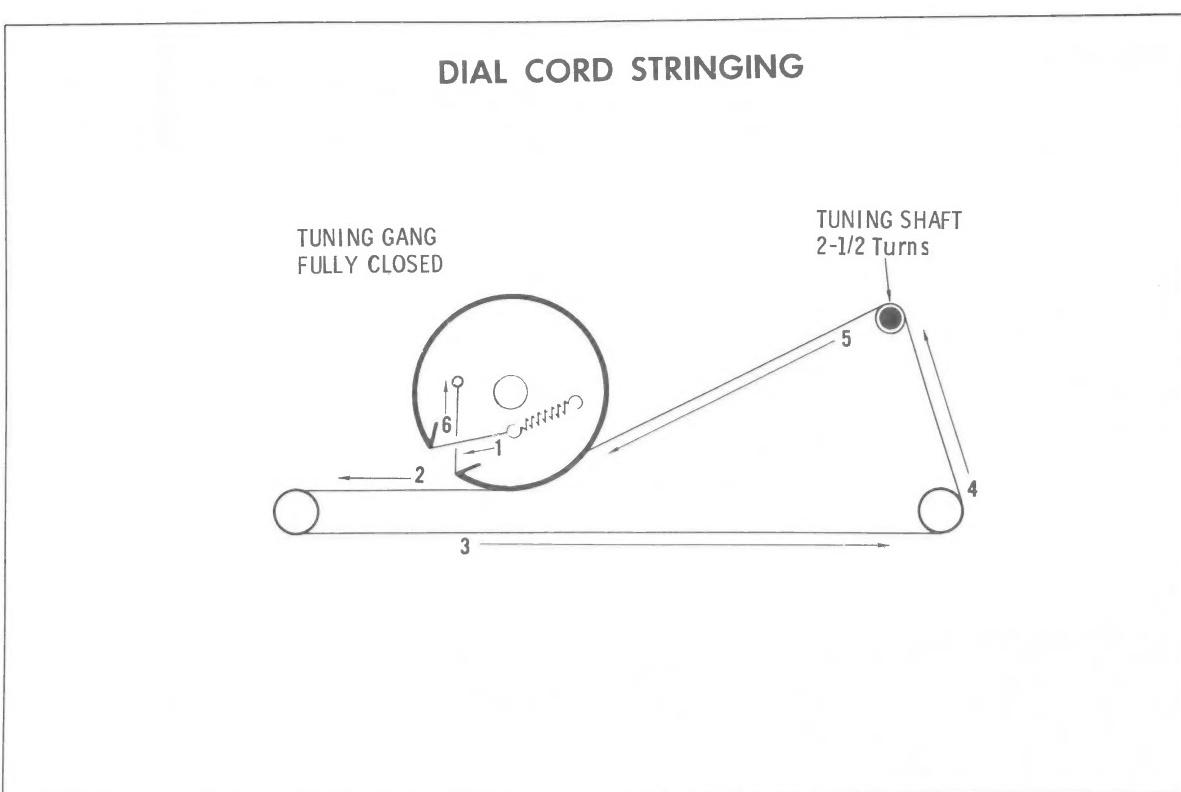
PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
S1	Switch		Power (On-Off)
S2	Switch		AFC (On-Off)
S3	Switch		Selector (Phono-AM-FM-FM MPX-Tape)

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)



PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Power Cord	Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Feet
	17109 (Plastic) or 17129 (Rubber) - 9 Feet
Low-loss Shielded Lead (Interconnecting)	Use BELDEN No. 8401 or 8421

SEMICONDUCTORS

ITEM No.	TYPE / MFGR. No./PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	1N60	1N60	1N60 (7)	PTC206 (7)	HEP135 (7)	SK3088 (7)		ECG 109
D2	1N60	{ 1N60 (7)	{ 1N60 (7)	{ PTC206 (7)	{ HEP135 (7)	{ SK3088 (7)	{ ECG 110 (6)	{ }
D3	1N60							ECG 109
D4	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 110 (6)
D5	1N60	{ 1N60 (7)	{ 1N60 (7)	{ PTC206 (7)	{ HEP135 (7)	{ SK3088 (7)	{ ECG 109	{ }
D6	1N60							ECG 109
D7	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 110 (6)
D8	1N60	{ 1N60 (7)	{ 1N60 (7)	{ PTC206 (7)	{ HEP135 (7)	{ SK3088 (7)	{ ECG 109	{ }
D9	1N60							ECG 110 (6)
D11	1N60	{ 1N60 (7)	{ 1N60 (7)	{ PTC206 (7)	{ HEP135 (7)	{ SK3088 (7)	{ ECG 110 (6)	{ }
D12	MPS9601	GE-504A	8D4 or 5A4D	PTC201 or PTC202	HEP156 or HEP157	SK3030 or SK3031	RT213 or RT214	ECG 116 or ECG 117
D13	MPS9601	GE-504A	8D4 or 5A4D	PTC201 or PTC202	HEP156 or HEP157	SK3030 or SK3031	RT213 or RT214	ECG 116 or ECG 117
D14	MV2205 (8)	GE-90 (8)	D201 (8)	PTC123	HEP53	SK3018	RT107	ECG 108
Q1	H9625/MPS9625H	GE-20	TR-21	PTC123	HEP53	SK3018	RT107	ECG 108
Q2	F9625/MPS9625F	GE-20	TR-21	PTC123	HEP53	SK3018	RT107	ECG 123A
Q3	F9623/MPS9623F	GE-20	TR-21	PTC123	HEP53	SK3018	RT107	ECG 123A
Q4	G9623/MPS9623G	GE-20	TR-21	PTC123	HEP53	SK3018	RT107	ECG 123A
Q5	H9623/MPS9623H	GE-20	TR-21	PTC123	HEP53	SK3018	RT107	ECG 123A
Q6	F9600/MPS9600F	GE-20	TR-21	PTC123	HEP53	SK3018	RT107	ECG 123A
Q7	J9680/MPS9680J	GE-22	TR-19	PTC103	HEP716	SK3114	RT126	ECG 159
Q8	J9680/MPS9680J	GE-22	TR-19	PTC103	HEP716	SK3114	RT126	ECG 159
Q9	MPSA13(11)	GE-64	IRTR-69	PTC153	HEPS9100			ECG 172
Q10	MPSA13(11)	GE-64	IRTR-69	PTC153	HEPS9100			ECG 159
Q11	K9682/MPS9682K	GE-22	TR-19	PTC103	HEP716	SK3114	RT126	ECG 123A
Q12	H9696/MPS9696H	GE-18	TR-24	PTC123	HEP721	SK3124	RT102	ECG 123A
Q13	K9682/MPS9682K	GE-22	TR-19	PTC103	HEP716	SK3114	RT126	ECG 159
Q14	H9696/MPS9696H	GE-18	TR-24	PTC123	HEP721	SK3124	RT102	ECG 123A
Q15	MH1502/LM1502H	GE-67 (3)	TR-28 (4)	PTC142 (4)	HEP242 (1)	SK3025 (4)	RT115 (4)	ECG 129 (2)
Q16	MH1501/LM1501H	GE-63 (3)	TR-25 (4)	PTC143 (4)	HEP243 (1)	SK3024 (4)	RT114 (4)	ECG 128 (2)
Q17	MH1501/LM1501H	GE-63 (3)	TR-25 (4)	PTC143 (4)	HEP243 (1)	SK3024 (4)	RT114 (4)	ECG 128 (2)
Q18	MH1502/LM1502H	GE-67 (3)	TR-28 (4)	PTC142 (4)	HEP242(1)	SK3025 (4)	RT115 (4)	ECG 129 (2)
Q19	J9680/MPS9680J	GE-22	TR-19	PTC103	HEP716	SK3114	RT126	ECG 159
Q20	J9680/MPS9680J	GE-22	TR-19	PTC103	HEP716	SK3114	RT126	ECG 159

(1) Use HEP502 Heat Sink. (2) Use ECG 400 Heat Sink. (3) Drill holes in chassis for mounting. (4) Use TO-5 Heat Sink.
(6) Matched Pair. (7) Two Required - Select Matched Pair. (8) Varactor. (11) Darlington Pair.

MOSE/ELECTROPHONIC
CHASSIS 26W, 76W

ELECTROLYtic CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		MFGR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C16	10 10V	RME-A-D-010	EP15-10	WBR10-25	MT1-5	MTV10CB50	EV-1222	
C21	10 10V	RME-A-D-010	EP15-10	WBR10-25	MT1-5	MTV10CB50	EV-1222	
C29	220 10V	RME-G-D-250	EA15-250	WBR250-16	QT1-28	MTV250DB10	EV-1140	
C30	220 10V	RME-G-D-250	EA15-250	WBR250-16	QT1-28	MTV250DB10	EV-1140	
C34	10 10V	RME-A-D-010	EP15-10	WBR10-25	MT1-5	MTV10CB50	EV-1222	
C36	220 10V	RME-G-D-250	EA15-250	WBR250-16	QT1-28	MTV250DB10	EV-1140	
C37	220 10V	RME-G-D-250	EA15-250	WBR250-16	QT1-28	MTV250DB10	EV-1140	
C41	10 10V	RME-A-D-010	EP15-10	WBR10-25	MT1-5	MTV10CB50	EV-1222	
C63	1 10V	ME-1-D-001	EP15-2	WBR1-50	MT1-1	MTV1CB50	EV-1315	
C64	1 10V	ME-1-D-001	EP15-2	WBR1-50	MT1-1	MTV1CB50	EV-1315	
C69	220 10V	RME-G-D-250	EA15-250	WBR250-16	QT1-28	MTV250DB10	EV-1140	
C70	100 16V	RME-E-E-100	EP15-100	WBR100-16	MT1-19	MTV100CD15	EV-1230	
C73	47 25V	RME-F-G-050	EP30-50	WBR50-25	MT1-16.5	MTV50CD25	EV-1326	
C74	47 25V	RME-F-G-050	EP30-50	WBR50-25	MT1-16.5	MTV50CD25	EV-1326	
C75	50 10V	RME-D-D-050	EP15-50	WBR50-25	MT1-16	MTV50CB15	EV-1226	
C77	220 10V	RME-G-D-250	EA15-250	WBR250-16	QT1-28	MTV250DB10	EV-1140	
C78	220 10V	RME-G-D-250	EA15-250	WBR250-16	QT1-28	MTV250DB10	EV-1140	
C80	2000 25V	ME-D2000		WBR2000-25		TC2520	TVA-1213	

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	35	+.5pf					
C2	100		CCD-101	DD-101	GP100	GP310	IOTS-T10
C3	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
C4	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C5	10	+.5pf	CCTO-100	DTZ-10	NP010	CN0410	IOTCC-Q10
C6	5	+.5pf			NP05		IOTCC-V50
C7	22	+.5pf					IOTCC-Q22
C8	300		CCTO-220	DTZ-22	NP022	CN0422	IOTS-T30
C9	5	+.5pf	CCD-301	DM-301	GP300	GP330	IOTCC-V50
C10	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
C11	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C13	7	+.5pf	CCTO-688	DTZ-688	NP07	CN0568	IOTCC-V68
C14	300		CCD-301	DM-301	GP300	GP330	IOTS-T30
C15	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C17	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C18	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C19	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C20	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C22	100		CCD-101	DD-101	GP100	GP310	IOTS-T10
C23	.005		CCD-502	CK-502	MGP005	TA250	TG-D50
C24	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
C25	300		CCD-301	DM-301	GP300	GP330	IOTS-T30
C26	300		CCD-301	DM-301	GP300	GP330	IOTS-T30
C27	.1					TA010	TG-P10
C28	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C31	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
C32	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
C33	.002		CCD-202	DM-202	GP2000	GP220	2SS-D20
C35	.005	10%	DM-30-502J	CPR-5000J	CD19FD512J03	SX250	424ME5101J501
C38	.005		CCD-502	CK-502	MGP005	TA250	TG-D50
C39	500	5%	DM-19-501J	CPR-510J	CD15FD511J03	SX351	424ME5100J501
C40	.04		CCD-203	CK-203	MGP02	TA120	TG-S20
C42	.02		CCD-202	DM-202	GP2000	GP220	2SS-D20
C43	.002			DD-403	GP140		
C44	.04			CCD-203	CK-203	MGP02	TG-S20
C45	.0022	10%	TMDF-1-222	DM-20-152J	CPR-1500J	SX215	424ME1501J501
C46	.0015	10%					
C47	.005		CCD-502	CK-502	MGP005	TA250	TG-D50
C48	.005		CCD-502	CK-502	MGP005	TA250	TG-D50
C49	.005		CCD-502	CK-502	MGP005	TA250	TG-D50
C50	.005		CCD-502	CK-502	MGP005	TA250	TG-D50
C51	.005		CCD-502	CK-502	MGP005	TA250	TG-D50
C52	.005		CCD-502	CK-502	MGP005	TA250	TG-D50
C53	300		CCD-301	DM-301	GP300	GP330	IOTS-T30
C54	300		CCD-301	DM-301	GP300	GP330	IOTS-T30
C55	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C56	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C57	.1					TA010	TG-P10
C58	.1					TA010	TG-P10
C59	.1					TA010	TG-P10
C60	.1					TA010	TG-P10
C61	100		CCD-101	DD-101	GP100	GP310	IOTS-T10
C62	100		CCD-101	DD-101	GP100	GP310	IOTS-T10
C65	.05		CCD-503	CK-503	MGP05	TA150	TG-S50
C66	.05		CCD-503	CK-503	MGP05	TA150	TG-S50
C67	.1					TA010	TG-P10
C68	.1					TA010	TG-P10
C71	300		CCD-301	DM-301	GP300	GP330	IOTS-T30
C72	300		CCD-301	DM-301	GP300	GP330	IOTS-T30
C75	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C76	.02		CCD-203	CK-203	MGP02	TA120	TG-S20
C79	.1					TA010	TG-P10
C81	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
C82	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
C83	.0047	1.4KV			CI-502	AC-5000	UAC250
C84	.04				DD-403	GP140	125L-D47
C85	.005						
C86	.005		CCD-502	CK-502	MGP005	TA250	TG-D50
C101	Tuning Gang		CCD-502	CK-502	MGP005	TA250	TG-D50
CT1	13 Trimmer						
CT2	Trimmer						
CT3	Trimmer						
CT4	Trimmer						

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
VR1	Separation	10K			C-103 (1)	X201R103B (1)	MTC14L1 (1)
VR2	Balance	1meg			A47-1meg-S(2)	Q11-137(2)	RU16L,SL36,SL1500
VR3a	Volume, Left	500K Tap @ 250K	F11-500K (2), R11-500K, SSK104,CPL-2		B19-133X, B19-133,SK1(2), QCM or [BU1(2), CF109TT(3), CR7ATT(3),SS1,	P55T35,3038 (2), RU55T35,CS3500	
b	Volume, Right	500K Tap @ 250K			B13-133,B13-133, SK1(2),QCM or [BU1(2),CF25,	P55A,3038(2), RU254R,	
VR4a	Treble, Left	500K	F2-500K(2), R2-500K, SSK104, CPL-2		CR20,SS1,SS7A, DC1]*	CS3500	
b	Treble, Right	500K			B17-130,B17-130, SK1(2),QCM or [BU1(2),CF95,		
VR5a	Bass, Left	250K	F3-250K (2), R3-250K, SSK104, CPL-2		CR64,SS1,SS7A, DC1]*		
b	Bass, Right	250K					

* "SNAPTROL
(1) Cut off one of the end terminals and bend to fit "PC" board.
(2) Enlarge mounting hole.
(3) Disregard 300K Tap.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R86	1	1/4W	
R87	1	1/4W	
R88	1	1/4W	
R89	1	1/4W	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.		

<tbl_r cells="6" ix="4" maxcspan="1" maxrspan="1

PHOTOFAC[®] Folder

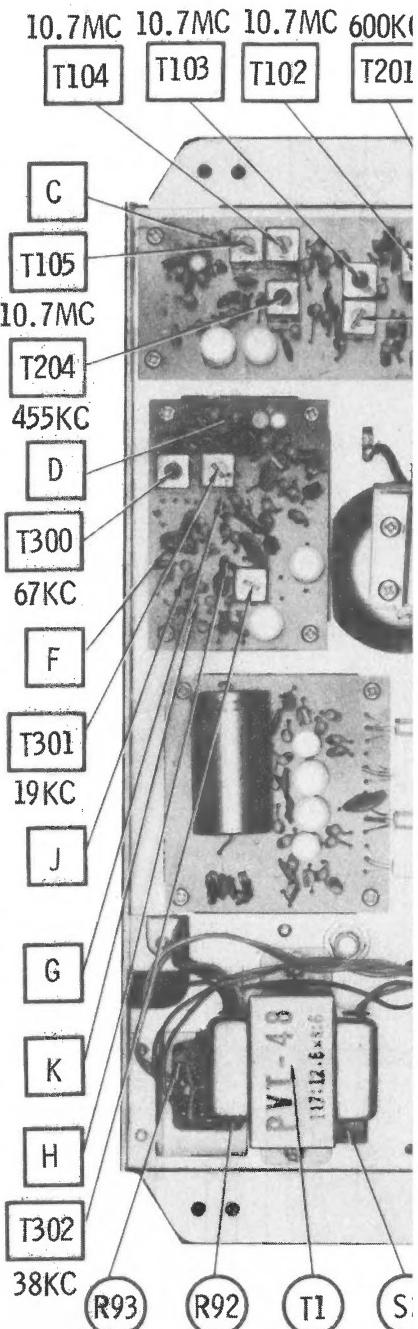
with CIRCUITRAC

For Supplier Address See P

SET 1318 FOLDER 4



MORSE/ELECTROPHONIC
CHASSIS 26W, 76W



HOWARD W. SAMS & CO.,

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. 3PN60

